An interesting case of cutaneous horn

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ABSTRACT

Cutaneous horn is an uncommon lesion consisting of keratotic material and a clinical diagnosis referred to as, a conical projection of cornified material above the surface of the skin that resembles a miniature horn. The horn is composed of compacted keratin. Cutaneous horns usually develop on a keratinocyte base with the histopathology on a spectrum ranging from benign keratosis to invasive squamous cell carcinoma. Here, we report the case of a cutaneous horn in a 65-year-old male.

Key words: *Cornu cutaneum, Cutaneous horn, Sebaceous cyst*

Cutaneous horn is a relatively uncommon lesion consisting of a projectile, conical, dense, and hyperkeratotic nodule, which resembles the horn of an animal [1]. Historically, it is also referred to by its Latin name, cornu cutaneum, and less commonly and more eponymously, as cornu cutaneum of Rokitansky, after the German pathologist Baron Carl von Rokitansky [2]. The horn is composed of compacted keratin and its base can be flat, nodular, or crateriform.

Cutaneous horns most frequently occur in sun-exposed parts and are typically found on the face and scalp but may also occur on the hands, penis, eyelids, nose, chest, neck, and shoulder. The cutaneous horns are usually benign; however, malignant or premalignant lesions might be associated with it [3]. Most often, this is a benign verruca or seborrheic keratosis; however, cutaneous horns complicate a number of conditions including premalignant actinic keratoses and frank malignancy. More than half of all of the inciting lesions at the base of cutaneous horns are benign, and further, 23–37% are derived from actinic keratosis. Malignancy has been reported at the base of a cutaneous horn in up to 20% of lesions [4-7]. Due to their malignant potential, the lesions must always be considered for histopathological evaluation. The true pathobiology for the formation of cutaneous horns over each underlying base lesion remains unknown. A sex predilection has not been shown; however, the possibility of harboring malignancy at the base of the lesion is increased in men when compared with age-matched women [6,7]. We report the case of a cutaneous horn in a 65-year-old male.

CASE REPORT

A 65-year-old male, farmer by occupation, came to the outpatient department with complaints of a raised, painless growth over the posterior aspect of the right knee for >6 years duration.

On general examination, the patient was vitally stable. The local clinical examination demonstrated a 1 cm × 1 cm golden-colored, cone-shaped keratotic cutaneous horn (Fig. 1). On palpation, the horn was hard in consistency and fixed to the skin. There were no tenderness, discharge, or bleeding associated with the horn.

After careful and detailed physical examinations, the lesion was excised (Fig. 2) and primary closure was done with satisfactory result. The specimen was evaluated microscopically. Microscopically, the horn consisted of a marked hyperkeratosis, papillomatosis with a prominent granular layer, and vacuolated superficial keratinocytes with pyknotic nuclei (Fig. 3). The follow-up was uneventful without signs of recurrence.

DISCUSSION

A cutaneous horn (cornu cutaneum) is a protrusion from the skin consisting of cornified material resembling an animal horn in miniature. However, though grossly similar to horns in animals, they are histologically quite different from them. The animal horns are composed of superficial hyperkeratotic epidermis, dermis, and centrally positioned bone. No such axially positioned well-formed bone is observed in the gigantic human horns.

Historically, London surgeon Everard Home was credited with the earliest descriptions of cutaneous horns in 1791. However, cases from as early as the 16th and 17th centuries have been described in the medical literature. Most notable among these was by the Danish anatomist Thomas Bartholin in 1670 [8]. The earliest well-documented case of cornu cutaneum from London in 1588 is of Mrs. Margaret Gryffith, an elderly Welsh woman. Farris from Italy first described the well-documented case report with adequate histology of gigantic horn in a man [9].

A cutaneous horn (cornu cutaneum) can be derived from a variety of benign or malignant epidermal lesions. The histological

Figure 1: Cutaneous horn over the posterior aspect of the right knee

Figure 2: Excised tissue of cutaneous horn

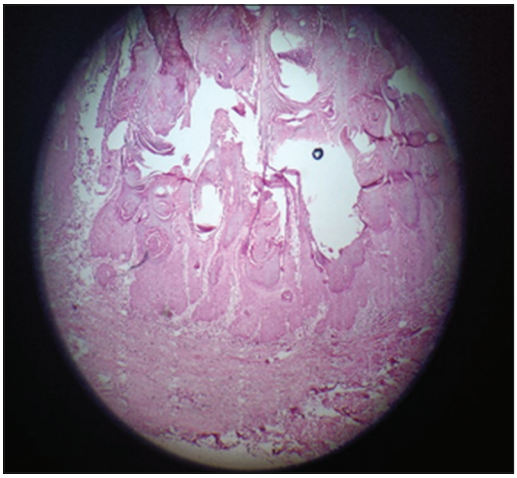

Figure 3: Microscopic picture of the cutaneous horn

appearance of the basal layer of the cutaneous horn is in the spectrum of seborrheic keratosis to infiltrated squamous cell carcinoma (SCC) [2,10]. The important issue is not the horn itself which is dead keratin, but rather the underlying condition, which may be benign (seborrheic keratosis, viral warts, histiocytoma, inverted follicular keratosis, verrucous epidermal nevus, molluscum contagiosum, etc.), premalignant (solar keratosis, arsenical keratosis, and Bowen's disease) or malignant (SCC, rarely, basal cell carcinoma, metastatic renal carcinoma, granular cell tumour, sebaceous carcinoma, or Kaposi's sarcoma). Most commonly, they are single and arise from a seborrheic keratosis lesion [11,12].

The largest study of 643 cutaneous horns was reported by Yu *et al.*[3]. According to them, 39% of cutaneous horns were derived from malignant or premalignant epidermal lesions and 61% from benign lesions. Two other larger studies on cutaneous horn too showed 23–37% of these to be associated with actinic keratosis or Bowen's disease and another 16–20% with malignant lesions [13,14]. In the study of Bart *et al.*, 44% of patients had underlying malignancy and three of their patients had a history of skin cancers [15]. Spira and Rabonovitzin their study concluded that cutaneous horns in associated with a malignant or premalignant base are more common in patients with a history of other malignant or premalignant lesions [16].

The prognosis is dependent on the classification of the underlying proliferative lesion at the base of the horn (e.g. actinic keratosis and SCC). Cutaneous horns often cause little physical discomfort unless struck or if arising in areas prone to physical irritation. Tenderness at the base of the lesion is often a clue to the presence of a possible underlying SCC [4]. Bleeding at the base of the lesion, as well as larger size, has been suggested as an indication of underlying malignancy [3,8]. Cosmetically, however, they can cause significant concern for the patient, as they can be socially disconcerting. In general, malignant or premalignant conditions are more common in older male patients, especially when the cutaneous horn is found on the face, pinna, dorsum of hands, forearms, or scalp or when it has a larger base or base-height ratio [3].

Histopathological examination, especially of the base of the lesion, is necessary to rule out associated malignancy and full excision and/or reconstruction is the treatment of choice. In our part of the country, exposure to the sun is most common [1,17,18]. Majority of the population is involved in farm activity mostly without sun protection. We believe that sun exposure is the most important etiological factor in the pathogenesis of the cornu cutaneum like other skin lesions. The cutaneous horns are predominantly benign lesions; however, a possibility of malignant potential should always be kept in mind.

CONCLUSION

A cutaneous horn (cornu cutaneum) which is presented as a protrusion from the skin consisting of cornified material is predominantly benign lesions; however, a possibility of nearly one-third of them harboring malignant or premalignant skin lesions should always be kept in mind. Thus, after a detailed physical examination and operative procedure, a histopathological examination, especially of the base of the lesion, is necessary to rule out the associated malignancy.

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